



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B5/P  
UNIQUE ID NUMBER: 3CM027  
COMBUSTOR:  
ENGINE TYPE: TF

BYPASS RATIO: 5.9  
PRESSURE RATIO ( $\pi_{00}$ ): 23.3  
RATED THRUST ( $F_{00}$ ) (kN): 97.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	15.3	59.3	44.3	7.0
AS % OF ORIGINAL LIMIT	78.1	50.3	51.1	29.4
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			63.9	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			78.6	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			89.4	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			108.8	

### DATA STATUS

- PRE-REGULATION  
x CERTIFICATION  
- REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
- DEDICATED ENGINES TO PRODUCTION STANDARD  
- OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
(ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)

x OUT OF PRODUCTION (DATE: - )  
- OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.891	0.20	0.90	21.90	5.4
CLIMB OUT	85	2.2	0.742	0.20	1.00	18.50	1.6
APPROACH	30	4.0	0.260	0.70	3.40	8.70	0.3
IDLE	7	26.0	0.094	6.20	30.00	3.80	0.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			344	980	4743	3732	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				10.0	48.3	38.2	5.4
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW)  
STAGE BLEED 0 (% CORE FLOW)

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.2-99.6
TEMPERATURE (K)	281.5-283.6
ABS HUMIDITY (kg/kg)	0.0065-0.0075

### FUEL

SPEC	Jet A
H/C	1.92
AROM (%)	19

MANUFACTURER: CFM International  
TEST ORGANIZATION: CFM56-5B Eval Engineering  
TEST LOCATION: Techspace-Aero Facility, Liege, Belgium  
TEST DATES: 01/11/1995

### REMARKS

1. FAA Certification Report CR-797/P, June 95.
2. Engine S/N 779-194/1

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)